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ONE - 3015
Copy 7 of 7

31 January 1962

MEMORANDUM FOR : Chief, Development Branch, DFD-00/P

SUBJECT : LAC Report 332, Flight Training Simulator

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1. The proposal provides for a movable cockpit, as in the earliest trainers, with emphasis on familiarization with flying qualities and "only those procedural items deemed necessary for realistic representation of the flight characteristics." To me, this approach to a simulator would certainly be inadequate in any case and particularly so in ours. First, the value of a training simulator lies in the learning, practice and testing of cockpit procedures. Secondly, the possession of a two seater aircraft provides for a far more realistic and faster indoctrination in vehicle flying qualities than could ever be approached by any ground simulator. The proposed equipment would be, in my opinion, valuable primarily in engineering studies of vehicle dynamics and of limited value as a training aid.

2. The type of simulator needed, and I agree to the need for a simulator, is a static procedural trainer. The trainer should present instrument indications of flight and system conditions throughout the full flight envelope, plus operable switches and controls to allow movement at appropriate times by the trainee. With a trainer of this type both normal and emergency procedures can be practiced and checked on a periodic basis.

3. In regard to selection of computers, the procurement of obsolete equipment is not considered appropriate in the event the concept is approved as presented. A new six degree of freedom analog computer is being procured at Edwards AFB at this time and, if desired, a copy of the technical evaluation of the various bidders' proposals can be obtained to quantitatively examine the merits of and other manufacturer's equipment. was the successful bidder in this case due to superiority of equipment for the intended purpose; prices were quite similar. Outright purchase was determined to be the most economical method of procurement.

25X1A

25X1A

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OW-3015

Page 2

4. With the schedule of aircraft deliveries as it exists today there should be no rush to build a simulator.

5. The following recommendations are made:

- a. The LAC proposal as presented should not be accepted.
- b. Request should be made to LAC for a procedural trainer proposal.
- c. In event of any analog computer procurement, avoid obsolete equipment and investigate more than one source. Purchase rather than lease is agreed to as the most economical procedure.

6. This has been coordinated with Special Projects Branch, DFO.

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